GEOSCIENCE LTD
LABORATORY TESTING DIVISION
6260-B Marindustry Drive San Diego, CA 92121

ORIGINAL

PROPERTY CERTIFICATION

CLIENT: WINCO Technologies
8, rue du Boisillion
22950 TREGUEX

DATE: October 8, 2010

MATERIAL INVESTIGATED:

SKYTECH Insulation installed in a 64" X 64" X 7.5" test frame with only two split studs spaced 32" apart. This system creates two 3.6" thick air spaces, each having a low emissivity surface; thin foam convection guards that completed the metering box zone also installed including 3/8" thick plywood cover sheets.
PO # 910

PROPERTY MEASURED:

The R value for this system (simulated attic) for heat flow down

MEASUREMENT METHOD:

Guarded Hot Box (ASTM C-236 (C-1363))

RESULTS: *

t_{mean} = 76.8°F

t_{hot} - t_{cold} = 46.7°F

q = 24.23 Btu/hr

A = 7.111 ft^2

R value = 13.70 hr ft^2°F/Btu (heat flow down)

* Details of the investigation are not included in this Property Certification; the results presented here apply only to the samples tested.

H F Poppendiek

CERTIFYING OFFICER: H. F. Poppendiek

Geoscience LTD
LABORATORY TESTING DIVISION
6260-B Marindustry Drive San Diego, CA 92121

ORIGINAL

PROPERTY CERTIFICATION

CLIENT: WINCO Technologies
8, rue du Boisillion
22950 TREGUEX

DATE: October 12, 2010

MATERIAL INVESTIGATED:

SKYTECH Insulation installed in a 64" X 64" X 7.5" test frame with only two split studs spaced 32" apart. This system creates two 3.6" thick air spaces, each having a low emissivity surface; thin foam convection guards that completed the metering box zone also installed including 3/8" thick plywood cover sheets.
PO # 910

PROPERTY MEASURED:

The R value for this system for a wall case (heat flow horizontal)

MEASUREMENT METHOD:

Guarded Hot Box (ASTM C-236 (C-1363))

RESULTS: *

t_{mean} = 77.5°F

$t_{hot} - t_{cold}$ = 46.6°F

q = 44.03 Btu/hr

A = 7.111 ft^2

R value = 7.53 hr ft^2°F/Btu (heat flow horizontal)

* Details of the investigation are not included in this Property Certification; the results presented here apply only to the samples tested.

H F Poppendiek

CERTIFYING OFFICER: H. F. Poppendiek

Geoscience LTD
LABORATORY TESTING DIVISION
6260-B Marindustry Drive San Diego, CA 92121

ORIGINAL

PROPERTY CERTIFICATION

CLIENT: WINCO Technologies
8, rue du Boisillion
22950 TREGUEX

DATE: October 15, 2010

MATERIAL INVESTIGATED:

SKYTECH Insulation installed in a 64" X 64" X 7.5" test frame with only two split studs spaced 32" apart. This system creates two 3.6" thick air spaces, each having a low emissivity surface; thin foam convection guards that completed the metering box zone also installed including 3/8" thick plywood cover sheets.
PO # 910

PROPERTY MEASURED:

The R value for this system (simulated attic) for heat flow up

MEASUREMENT METHOD:

Guarded Hot Box (ASTM C-236 (C-1363))

RESULTS: *

t_{mean} = 77.6°F

$t_{hot} - t_{cold}$ = 45.3°F

q = 52.56 Btu/hr

A = 7.111 ft^2

R value = 6.13 hr ft^2°F/Btu (heat flow up)

* Details of the investigation are not included in this Property Certification; the results presented here apply only to the samples tested.

H. F. Poppendiek

CERTIFYING OFFICER: H. F. Poppendiek

Concluding Comments

The measured R values for the heat flows in the three directions are in reasonable agreement with predicted values for low foil surface emissivities. Also note, that the measured R values of the heat flow horizontal and up are expected to be significantly lower than the R value for heat flow down because of the convection heat transfer occurring in the heat flow horizontal and up cases.

For: WINCO Technologies

By: Geoscience Ltd.

Date: October 18, 2010